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04/09/2009

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EXAMINER

ZEWDU, MELESS NMN

ART UNIT

PAPER NUMBER

2617

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## **DETAILED ACTION**

### ***Advisory Action***

1. This action is in response to the communication filed on 4/6/09.
2. The action is an advisory with a courtesy response to the after final arguments presented by applicant.

### ***Response to Arguments***

Applicant's arguments filed 4/6/09 have been fully considered but they are not persuasive. Below is applicant's arguments and corresponding examiner's responses.

With regard to claims 1 and 31-32 and 34, applicant argues by saying --- the applied references do not disclose the claimed subject matter for a divided band, having a plurality of sub-carriers, a transmission format including a spatial multiplexing number based on a detected adaptability of the divided band for spatial multiplexing. Examiner respectfully disagrees with the argument. First, as evidenced/admitted by applicant, Sampath discloses --- outputting K streams to M transmission antennas (thus sub-carriers) and spatial multiplexing transmission performed for the K streams using (M-1) transmission antennas, including feedback information from a terminal --- to determine the number of data streams divided into (the number of spatial multiplexing K) (see REMARKS page 13, lines 1-8, lines 14-17). In particular Sampath discloses:

Art Unit: 2617

--- adaptive spatial multiplexing transmission, including a number of sub-carriers (see abstract; col. 3, lines 60-67; col. 7, lines 62-67). Sampath's spatial multiplexing is based on a lookup table and feedback information (see col. 7, lines 19-36), a feature which is not excluded by the instant claims, thus adaptable or adaptive.

--- setting a spatial multiplexing number (antenna number (see col. 7, lines 27-36). Examiner considers Sampath's antenna number and/or look-up table, which is/are not excluded by the instant claims) as a parameter/parameters used for setting spatial multiplexing number.

--- a transmission format including a spatial multiplexing number (see col. 7, lines 27-36). Within the context of the claim or feature, the antenna number which is not excluded by the instant claims, can be considered as a spatial multiplexing number.

--- a detected adaptability of the divided band for spatial multiplexing is taught by **Miyata** (see paragraph 0047).

--- the feature -- a divided band, having a plurality of sub-carriers --- is taught by Li (see col. 1, lines 13-18; final rejection). Examiner, therefore, does not find the arguments persuasive.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meless N. Zewdu whose telephone number is (571) 272-7873. The examiner can normally be reached on 8:30 am to 5:00 pm..

Art Unit: 2617

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bost Dwayne D can be reached on (571) 272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any inquiry of a general nature relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

/Meless N Zewdu/  
Primary Examiner, Art Unit 2617  
4/9/2009